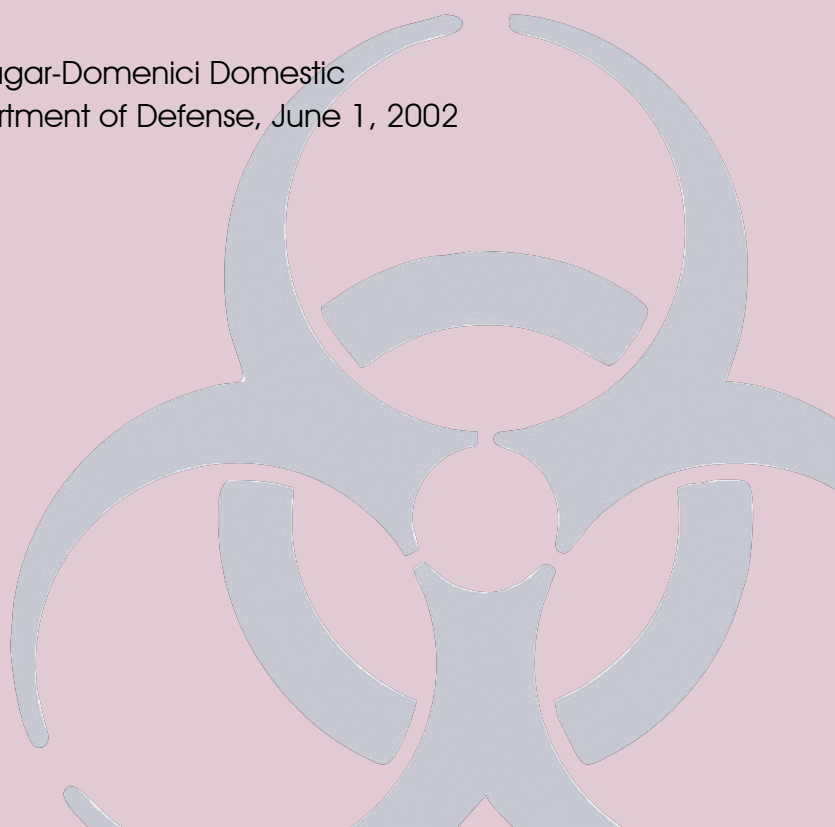


A MASS CASUALTY CARE STRATEGY FOR BIOLOGICAL TERRORISM INCIDENTS



Prepared in response to the Nunn-Lugar-Domenici Domestic
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Disclaimer

The contents in this planning guide are not to be construed as an official Department of the Army position unless so designated by other authorizing documents.

TABLE OF CONTENTS

INTRODUCTION	2
INTRODUCTION	2
BACKGROUND	2
MODULAR EMERGENCY MEDICAL SYSTEM (MEMS)	2
COMMUNITY OUTREACH	6
DEVELOPMENT	6
OVERVIEW	6
ASSUMPTIONS	7
METHODS	8
METHOD SELECTION	11
INITIATING THE OUTREACH EFFORT	13
SECTORING	13
COMMAND AND CONTROL	14
PERSONNEL RESOURCES	14
TRACKING AND DOCUMENTATION	16
SPECIAL PLANNING CONSIDERATIONS	16
MASS PROPHYLAXIS	18
ACQUIRING THE MEDICATIONS	18
REQUESTING THE STOCKPILE	18
RECEIVING THE STOCKPILE	18
REPACKAGING THE STOCKPILE	20
DISTRIBUTING AND DISPENSING MASS PROPHYLAXIS	21
CONCLUSION	23
POINTS OF CONTACT FOR PLANNING ASSISTANCE	24
RELATED READING	25
APPENDIX A: DECISION TREES	26

INTRODUCTION AND BACKGROUND

Introduction

This pamphlet provides information on the Community Outreach (CO) component of the Modular Emergency Medical System (MEMS). MEMS is an approach to disaster medical response, intended to assist emergency planners and health care providers in planning and coordinating an effective medical response following a large-scale bioterrorism incident in a civilian community. The CO component is complementary to the Neighborhood Emergency Help Center (NEHC) of the MEMS. The CO component is intended to serve that part of the community not reached through NEHCs.

This document also describes mass prophylaxis and identifies key activities and issues to be considered when crafting an emergency response plan. Either the CO effort or the NEHC, or both, may provide the function of mass prophylaxis.

The information provided can be tailored to meet community needs. Because an effective emergency response plan for a large-scale BW attack would be applicable to any catastrophic medical emergency, adaptation of these concepts can enhance overall emergency preparedness.

Background

In recent years, concern over the likelihood of a terrorist attack involving unconventional threats has increased. In 1998, under the auspices of the Department of Defense's (DoD) Domestic Preparedness Program (DPP), the Biological Weapons Improved Response Program (BW IRP) conducted a series of workshops aimed to identify approaches to enhance management of the consequences of a large-scale biologi-

cal terrorism attack. One product of the BW IRP effort is a multi-echelon interagency template for executing a fully integrated disaster response, to efficiently use a community's combined medical resources. The MEMS represents the BW IRP's initial attempt to address the need to rapidly enhance a community's medical capacity during a biological terrorism attack. Community Outreach is one component of the MEMS' enhanced disaster care system.

Modular Emergency Medical System (MEMS)

To ensure proper perspective of the concepts and processes that comprise community outreach and mass prophylaxis, readers must first have a basic understanding of the broader MEMS concept (see figure 1). Many experts believe that a biological incident has the potential to significantly overwhelm the health and medical capabilities of most U.S. cities. Recognizing this threat, the BW IRP sponsored an effort to outline a new strategy that would allow cities to provide an effective response to such an incident. The BW IRP assembled a working group that included experts from public health, medical, and emergency management fields. After intense discussion, the working group drafted a generic strategy called the Modular Emergency Medical System. The strategy outlines response measures that can be tailored to the particular needs of individual communities and to a variety of possible scenarios.

One major obstacle to an effective biological incident response is that most communities have limited ability to expand their health and medical capacity using their existing infrastructure. Modern trends to cut

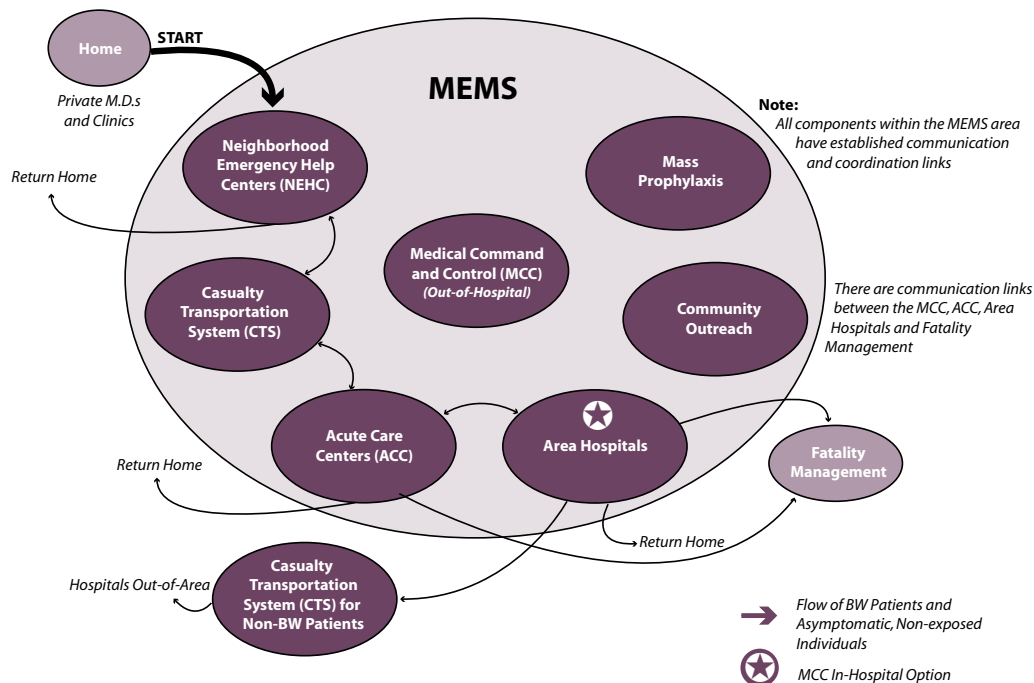


Figure 1. Modular Emergency Medical System (MEMS)

costs — become leaner and more efficient — have forced hospitals, and other aspects of the health and medical system, to do away with abundant surge capacity. The MEMS helps communities compensate for reduced resources by providing a framework that outside disaster medical resources can quickly and effectively integrate with, and that augments local health and medical efforts. The initial response framework of the MEMS is established through rapid mobilization of available medical assets into two types of expandable patient care modules: Acute Care Centers (ACCs) and Neighborhood Emergency Help Centers (NEHCs).

ACCs function as mass inpatient care facilities designed to augment hospital capacity to admit incident victims. NEHCs function as high-volume casualty reception centers, where staff perform victim triage and dispense prophylactic medications and self-help information. A network of these preplanned medical facilities enhances a community's capability to care for large numbers of incident

casualties by converting non-hospital facilities into standardized mass care centers. By augmenting the local health and medical infrastructure, critical portions of the existing systems, such as hospitals and 9-1-1 Emergency Medical Services, will continue to function effectively. The function of these services is particularly important because it ensures that the local medical system will continue to meet the needs of the incident victims as well as the needs of non-incident related patients.

The modular design of the MEMS has built-in flexibility that allows integration of multiple components. A network of standardized modular care centers can be easily expanded or contracted as resources are made available and as the incident requires. The ACC and NEHC, integrated with an aggressive community outreach effort and a dedicated casualty transportation system, work together to provide a wide range of care and services to the victims of a biological terrorism incident.

Current medical systems of most metropolitan communities in the United States include public and private area hospitals, outpatient clinics, ancillary care organizations, and private physicians. Together these organizations have an enormous amount of resources that would be needed in a biological incident. Unfortunately, because these asset organizations are loosely organized structures at best, with no unified authority, their efforts will be disjointed and inefficient. By establishing a structured unified medical command, communities will have a more effective means to harness and optimize available resources. The MEMS strategy allows communities to do this during emergency operations through the activation of preplanned communications links. The organization and management of the MEMS is based on the Incident Command System/Incident Management System (ICS/IMS), which is already utilized nationally by the emergency services community to define roles and structure command and control relationships. Under the MEMS, local hospitals should be linked to NEHCs and ACCs and coordinate and direct patient care, medical logistics, and information flow.

To execute the MEMS strategy, participating hospitals, clinics, and private medical doctors would temporarily forego their autonomy and jurisdictional medical statutes, and function as a unified system. Such drastic measures would be necessary to successfully minimize the morbidity and mortality of a catastrophic event. In emergency situations, individual area hospitals and their associated centers could be linked to the community's ICS to form the basis of a unified medical command structure.

For example, as an incident escalates, each local hospital would implement its

own internal emergency preparedness plans and establish an emergency Medical Command Center (MCC). As hospitals reach capacity and are no longer able to divert patients to other hospitals, they would request that the community activate the MEMS to provide necessary relief. The community-activated emergency mobilization and acquisition plans establish NEHCs and ACCs at predetermined locations. As the temporary care centers are established, they would be linked to a supporting hospital. Each ACC will need a local hospital to support it. However, a hospital may support multiple ACCs and within a community that has several hospitals, each hospital may support their own ACC(s). ACCs will allow hospitals to transfer and redirect admitted patients that require non-critical and agent-specific care. At the same time, outpatient clinics may be expanded into NEHCs, allowing non-critical, symptomatic and asymptomatic, potentially exposed casualties to be directed to and treated at facilities away from hospital emergency departments. The MCC would allow hospitals to coordinate and direct health and medical operations throughout a predetermined geographic sector, while a unified medical command would direct operations at the community level. Some communities might prefer an alternative approach to this organization by establishing the ACCs and NEHCs as stand-alone facilities not associated with area hospitals. This approach would make command, control, and logistical support of the centers a direct responsibility of the local authorities (e.g., emergency management office). Emergency planners should check to make sure they have appropriate authorities under State Law. It should be noted that if the incident requires establishment of more than five to seven temporary care

centers, the span-of-control may become too great for a single MCC to manage.

In addition to ACCs and NEHCs, the MEMS makes use of a community outreach effort, which could be organized by local law enforcement, fire, or volunteer organizations to facilitate the medical response and public information efforts. If needed, the outreach workers could conduct a door-to-door sector survey of severely affected communities, identifying victims that are otherwise unable to access necessary care. In an incident that is thought to involve a highly communicable disease, it may be best to isolate individuals from one another and avoid mass gatherings. In such an incident, authorities could instruct citizens to stay home and receive assistance via community outreach.

The MEMS also calls for establishment of a dedicated casualty transportation system to facilitate the movement of patients between various care centers (e.g., NEHCs, hospitals, and ACCs). The casualty transportation component is critical to the success of the MEMS as it will expand the community's patient movement capacity, facilitate patient flow throughout the medical system, optimize system-wide resource utilization, and ensure timely care. Such a system might also become

necessary if authorities choose to transfer non-incident related patients from local hospitals to distant locations in order to provide additional space for incident victims. In such a situation, the casualty transportation component of the MEMS could function as the local link to the National Disaster Medical System (NDMS), orchestrated by the U.S. Department of Health and Human Services.

It is highly unlikely that the amount of resources and the number of victim care centers needed will be known at the onset of the incident. It will also be difficult to predict the particular needs of victims. Therefore, biological incident response plans must be extremely flexible to accommodate the range of possibilities. The MEMS is a flexible strategy that allows communities to effectively meet the time-critical needs of biological incident victims. The modular approach of the MEMS can be expanded and contracted as needed. By constructing an emergency network of participating medical organizations, pre-selecting locations for establishing temporary medical centers, and developing personnel mobilization plans and resource acquisition plans, communities will be better prepared to respond quickly and efficiently to a bioterrorist event.

Development

Initially, working group sessions of first responders and medical personnel developed the relationships between MEMS components, including the ACC and the NEHC, and laid the foundation for the development of the Community Outreach, Casualty Transportation System, and Medical Command and Control concepts.

Further development of the Community Outreach component and the closely intertwined Mass Prophylaxis function was accomplished at a workshop held by the partnership of officials from Arlington County, Virginia, and the U.S. Department of Health and Human Services' Office of Emergency Preparedness. This workshop resulted in unique ideas for Arlington County's emergency operations plan and generic Community Outreach and Mass Prophylaxis information applicable to any community.

Subsequently, the BW IRP hosted the Modular Emergency Medical System Concept Development Conference 2001 (MEMS CON 2001). MEMS CON 2001 participants included a number of first responders, emergency managers, health department officials, and health care providers who provided peer review of the Arlington workshop and continued to refine the Community Outreach concept.

This pamphlet provides information on the Community Outreach component of the MEMS as developed at these workshops.

Overview

The primary purpose of the Community Outreach effort, in the context of the

MEMS, is to disseminate information related to the (bioterrorism) incident, assess the affected community, and enhance the distribution and dispensing of mass prophylaxis. A secondary purpose of CO in some situations may be to provide some form of patient care beyond mass prophylaxis such as patient assessment and triage.

The Community Outreach concept was developed to assist planners, administrators, responders, medical professionals, public health personnel and emergency management personnel to better prepare for events in which large numbers of the general population must be contacted in a short period of time. The content of this document will be of particular interest to anyone involved in civilian preparedness for bioterrorism or any similar situations. The Community Outreach concept describes the specific command organization, operational execution, and the logistical and resource requirements associated with the CO component of the MEMS.

This Community Outreach planning guide, along with the other MEMS pamphlets (see "Related Reading" at the end of this document), is a local planning document that will provide a framework for developing a unified, comprehensive response that meets the needs of local communities and integrates easily into the federal and state response. In large-scale disasters, city or regional leaders will be forced to confront numerous difficult issues, many of which are identified in this planning document. This document is intended to serve as a starting point for local planners to develop community-specific CO plans, mutual aid or Memorandum of Agreement relationships, and

procedures. Individual communities might find it necessary to devote more resources to some areas while scaling back resources to others. The over arching objective is to effectively use available resources to complete the mission of Community Outreach.

Community Outreach may simply be a vehicle for disseminating information, but it could be expanded to identify affected and unaffected individuals, identify and assess the affected area/region, or to distribute prophylactic medications.

The mission of the Community Outreach effort will vary greatly depending upon whether or not the agent is communicable. In a non-communicable situation, the primary objective of Community Outreach may be to provide information explaining how, when, and where to get help. As NEHCs and ACCs are established, as a part of the emergency response, information regarding their locations, hours of operation, and services provided needs to be communicated to the public. However, if the disease is communicable, Community Outreach will be essential in limiting the spread of disease by reducing the need for the general population to gather in public locations to receive care.

Another potential benefit of an effective CO effort may be that the information obtained is helpful to the epidemiological or law enforcement investigation of the incident. Additional information on these investigations can be found in the *NDPO / DoD Criminal and Epidemiological Report*.

The following major areas covered in this pamphlet include:

- Methods to conduct Community Outreach

- Sectoring
- Mass Prophylaxis – acquisition, distribution and dispensing

Community Outreach component plans must be structured so that CO can be either an intense effort lasting for a few days, or a more extended effort, one lasting several weeks. A framework was created that is flexible enough to accommodate various scenarios. Regardless of the scenario, a municipality should plan to continue some form of CO until it has recovered from the event and activities have returned to normal. The event will be dynamic and the CO mission may change over time. Officials should be prepared to expand the operation should any of the following triggers occur:

- New information is available from epidemiological or law enforcement investigations
- A secondary release occurs in the same or a new location
- A secondary outbreak/wave of disease is noted
- There is a rapidly increasing number of deaths
- There are new or unexplained animal deaths

Assumptions

The Community Outreach concept development applied the following assumptions:

- **Casualties/Fatalities:** A large-scale bioterrorist incident will likely produce thousands to hundreds of thousands of casualties and/or fatalities, depending on the agent used.

- **Dissemination of accurate information:** A system to rapidly distribute incident-related information is necessary to identify casualties or potential casualties, calm fears, and restore order.

- **Overwhelming demand on medical systems:** During a bioterrorist event, affected and psychological casualties will likely overwhelm the community's health care systems.

- **Planning is necessary to maximize effectiveness of community medical resources:** A simple system that rapidly integrates medical resources and provides massive casualty management will be needed.

- **Preparation of medical and critical responding communities:** Emergency officials will communicate with the medical and other critical responding communities (fire, police, EMS, utilities, etc.) in advance (during pre-planning activities), and when the event is recognized, to assure health care workers that their personal safety and that of their families has been planned for and that appropriate medical prophylaxis and/or personal protective equipment will be provided. It will be crucial to have accurate and timely dissemination of information to the CO workers to decrease their concern of becoming secondarily infected and to encourage them to continue their assigned duties.

- **Planning for alternative scenarios:** The type of agent used and the resulting illness will determine the compo-

sition, the purpose, and the mission of the CO effort. A communicable agent will require a more aggressive CO effort to bring medical care to the people. A non-communicable agent may require a Community Outreach effort that focuses on information distribution and instructions directing people to medical treatment or medication dispensing locations, such as an NEHC.

Methods

This pamphlet offers suggestions on how an emergency manager might execute an outreach effort. Many of the options are not appropriate for every situation or for every municipality. Each locality will need to determine which method, or combination of methods, will be the most appropriate for their situation. The suggestions presented in this pamphlet are not comprehensive and localities should include any options that are in place within their community. In addition, a decision tree is included to guide planners through the processes discussed in the remainder of this document (See Appendix A, Figure A1-A5 – CO Decision Trees). The following are possible methods for executing an outreach program.

- **Use of the Media** – The media is an excellent way to quickly inform large numbers of people of the actions they should or should not take. The first CO action should be a press release from the city's Public Affairs Officer (PAO) stating that "something has happened and that they, the government officials, are taking action to diagnose the problem and to provide the necessary information to the public." Initially, the PAO will

probably not know what the agent is or who is infected. The city should demonstrate that it is aware of the situation and is responding appropriately. The key at the beginning is not to provide all of the answers, as many answers will not be available, but to demonstrate that the city is aware of the situation and is responding appropriately. Over the next few hours and days, it is important that factual and timely information is communicated to the people. Once the event has been identified as an act of terrorism, the Federal Bureau of Investigation (FBI) will establish a Joint Information Center (JIC) and public affairs issues will be handled through this group. Whenever the media is involved, all of the responders and city officials need to “speak with one voice.” This should be done by channeling all of the information through the PAO for distribution to the media. Most communities already have this type of public information process in place.

- **Reverse 911 Calls** – Many areas that have a 911 emergency phone system can reverse the process and have the system call phone numbers in the community. Reverse 911 could be configured several different ways to target certain key areas within the community or to call every number. When the phone is answered, the system will play a pre-recorded message describing the event and providing other appropriate information. Before using this method to call every household in the community or identified area, be aware of the capabilities/limitations of the system.

REVERSE 911 CALLS

A typical reverse 911 system can make 48 calls at one time. Assuming a call length of 30 seconds per call, it would take over 17 hours to call 100,000 households.

- **Public Participation via Telephone or Internet** – The community could set up a temporary toll-free phone number or reassign an existing local number that people could call for information. The information could be either a pre-recorded message, which tells them where they can receive assistance, or a live operator to answer questions. These public phone numbers can be advertised via public service announcements or printed materials.

If citizens call in to a manned phone number, the operator could ask a brief series of questions to obtain more information on who is sick, who needs help, and who is asymptomatic without having to send CO workers to that home. This approach augments the door-to-door method discussed later in this section.

If the affected locality has a web site, altering the home page to provide urgent information such as where to receive help is another excellent method for reaching a portion of the population.

Public participation via telephone or internet requires the consideration of system capacity and what the course of action should be if the capacity of the system's communications is exceeded. For example, if the phone system can only handle a certain number of calls per hour, would the caller get a busy signal or would they be put immediately on hold? In addition, a large number of telephone operators will be needed early on to prevent jammed phone lines.

- **Flyer Distribution** – Flyers could be an effective way to distribute information and could be distributed via many existing organizations. The U.S. Postal Service could deliver one to each household as part of the normal mail delivery. A unique aspect of the Postal Service is that it is the only federal agency that interfaces with every household, every day. Another flyer distribution method could be to use garbage collectors to hang flyers on each garbage can as they empty it. Since many households set out garbage cans, a large number of people could be reached this way. If the community chooses to use the door-to-door method (explained below in further detail), then the canvassing teams could leave a flyer on every door that they visit. In addition, flyers could be distributed at mass transit locations, such as subway or bus stations, which would be particularly helpful if the location of the release has already been identified (e.g., on the subway or particular bus). After a covert release in a subway system, for example, it may be

undetected for several days when people start becoming ill. During this time the subway will continue its normal operations and the people who normally ride the subway will continue to ride it. So, after it is determined that the subway was where the release occurred, distributing flyers to these riders would be helpful.

- **Faxed Notices** – Some local health departments have the ability to fax notices of medical importance to every hospital, clinic, and private physician's office in the county or region. This would be a fast, easy method to send targeted medical information to the health care community.
- **Public Briefings** – The CO program could sponsor public briefings to present more detailed information to the people than what is available on a flyer. These meetings could be held in community centers, churches, or public schools conveniently located near the affected population, or televised on local networks or cable channels.
- **Set Up Information Booths** – The community could establish information booths at known locations (e.g., shopping malls) where people could come for information and to ask questions.
- **Use Community Organizations** – The community could request churches or civic organizations to contact their members and/or announce it in their meetings. This would get the message out to all of their membership but would exclude the rest of the population.

- **Door-to-Door Canvassing** – This is the most labor intensive but also the most thorough method of reaching people. By physically going to every door, Community Outreach workers will know exactly who got the message and who did not. Information regarding who is present, who is sick, or who is well may also be obtained. If a community chooses to go door-to-door, there are a number of issues to consider.

Who is going to be visited? Do the workers go to every door in the city? Do the workers choose only certain neighborhoods to visit? How do the workers choose or prioritize the neighborhoods? Can the workers identify the most likely target populations?

What are the workers going to do at each door? Should they drop off a flyer and leave, or take a complete clinical history of every occupant at each address?

How long will they spend at each door? There is a trade off between the amount of information that the canvassers collect or distribute and the amount of time that they will spend at each door. If the canvasser spends more time at each address collecting or disseminating information, he/she will cover fewer addresses.

How long will it take to travel between doors? This is a major planning consideration because when canvassing widely distributed single family homes, it will take longer to cover a given number of households than when can-

vassing in a single high rise apartment building.

What if they reach a building that they do not have access to enter? This type of information should be communicated to the Command and Control center for further investigation and guidance. Community Outreach workers should also record the fact that no contact was made at a particular location or address for tracking and documentation purposes.

What if no one answers the door? Canvassers should be informed in advance on the procedure(s) for homes that are not responsive to the canvasser's inquiry. Should they come back and try the same door later? They should document the fact that no contact was made at that address. In addition, they should inquire with neighbors as to the last time the occupants were seen or if the occupants were known to be out of town or relocated. Again, the workers should document any pertinent information obtained.

Method Selection

Planners must consider several variables to employ the most effective method(s) for Community Outreach. These variables and their implications are discussed in this section.

Communicable vs. Non-Communicable Agents: The first thing for planners to consider is which biological agents are likely to be used. Biological Warfare agents can be divided into two main groups: com-

municable and non-communicable agents. It may be prudent to create two contingency plans, one for communicable and one for non-communicable events.

Fortunately, most of the common biological agents are considered non-communicable. This means that the disease caused by these agents does not normally spread from person-to-person after the initial release. Some examples of non-communicable diseases are anthrax, tularemia, and Venezuelan equine encephalitis.

Diseases, such as smallpox and plague, are easily spread person-to-person after the initial release and are considered communicable. Planners should consider the deleterious effects of bringing large groups of people together if the agent is communicable.

Information regarding the communicability of the agent will help determine the mission of the outreach effort. If the incident is communicable, the Community Outreach effort will need to assist in containing or limiting the spread of disease by educating the public in infection control measures and providing the community with personal protective equipment. If the incident is non-communicable, the CO effort may focus more on assessing the population to determine the extent of disease and patient requirements for medical care. Both situations may require that the community outreach effort include prophylaxis distribution.

Community Characteristics: The geographic, cultural, and social make-up of the community will greatly affect how the outreach program will operate and how many resources will be required.

Is the affected area a large city with high-rise apartment buildings or a suburban area consisting of single-family homes? It might be easier to canvass a single apartment building than one hundred individual houses.

Does the community have a large transient population? If it does, then the affected population may be more dispersed than one would normally expect.

Does the community have a large mix of ethnic groups or populations that do not speak English? How will the information reach people who cannot speak, read, or understand English?

The CO Mission: Depending upon the mission given to the Community Outreach effort, a large number of people may be needed to perform the assigned tasks.

Does the community have enough people to complete the mission? If not, does the city have the ability to acquire additional personnel? Who should perform community outreach?

Duration of Incident: Time is the final determiner. Depending on the agent, the incident may last a few days to several weeks. For a Community Outreach effort to be effective, the response must be assembled and exe-

cuted quickly, within 72 hours. The 72 hour time-frame is not meant to imply an incubation period. It is the time frame in which to contact the involved population in order to increase the effectiveness of a community outreach effort.

TIMING IS EVERYTHING

The effort must be able to contact all of the people in the target population within the first 72 hours or the outreach effort will lose its effectiveness as the event either escalates out of control or rapidly winds down.

Initiating the Outreach Effort

If the event is an overt release, identifying the population at risk should be more straightforward than if the event is a covert release. Certainly for the covert situation, identifying the population at risk is a multidisciplinary effort, involving epidemiological and law enforcement investigation teams. Once the affected population has been identified, the next step is to decide how to divide the geographic region into manageable sections or "sectors."

Sectoring

The management of a large community outreach effort is a difficult task. Sectoring is a way to divide the affected area into smaller portions so the task of an outreach program will become a manageable operation. There must be a structure to each canvassing team with one person in charge of each sector.

There are many ways to sector a city. Emergency planners should consider using well defined, existing boundaries to eliminate confusion. Some possible boundaries include the following areas:

- Police Districts/Precincts
- Neighborhoods
- Fire Boxes
- Voting Precincts
- School Districts
- Refuse Collection Routes
- Postal Routes
- Public Health Nurse/Visiting Nurse Districts
- Census Tracts
- Zip Codes
- Hot Zone

The choice of how to sector the affected area would likely be based upon how large the area is and who would do the canvassing. Select a method that will be easily understood by the outreach workers.

SECTORING

For example, if a community chooses to use off-duty firefighters, then a logical sectoring method would be to use fire boxes because the firefighters are already familiar with them.

Also, consider any natural boundaries (e.g., rivers, highways, etc.) that may exist and hinder the canvassing. Some of the above sectoring methods took these natural boundaries into consideration when they were created, but some did not. Police districts and fireboxes usually do not cross

these boundaries while school districts and zip codes frequently do.

In a covert biological event, sectoring by hot zone might be the least helpful because it will likely be difficult to establish the point of release and even harder to draw a circle around it. This type of sectoring would be more helpful for a chemical or explosive-type event.

Another consideration is how well defined the neighborhoods are in a community. Some areas have extremely well defined neighborhoods while others do not.

Of the sectoring methods listed, planners should identify three or four that would be the most effective for their locality and build their Community Outreach plans around those approaches.

Command and Control

To satisfactorily execute the CO effort, someone or some agency must be in charge. The whole effort will probably require staffing from several different agencies and organizations. The person or agency in charge must coordinate the efforts of each supporting agency. If a Community Outreach effort has stationary locations (such as NEHCs) from which operations are conducted, there should be an individual designated at each site who will communicate with the official at the EOC.

The responsibility for Community Outreach should be at the lowest level of govern-

ment, such as local or county, and should be led by the most appropriate agency in each locality. This is because the local government will be the most familiar with the community. In some communities the CO effort may be the responsibility of the local health department, while in others CO may be best executed by another entity such as the fire department.

Personnel Resources

Depending on the mission assigned to the CO effort, a large number of people may be needed to perform the necessary tasks. There are many potential sources of effective capable personnel and most communities have the ability to obtain an adequate number of people, if they plan appropriately. Some of the possible sources of personnel include the following groups:

- **National Guard¹**—This is an excellent source of people. They have a well established organizational and leadership structure. They are uniformed and normally viewed positively by the community. It may take some time for them to arrive due to necessary activation and deployment activities.
- **First Responders (Police, Firefighters, EMTs, Paramedics, etc.)**—There are two strategies for acquiring additional first responder personnel. The first is to increase the regular shift that each person works (e.g., from 8 hours to 12 hours) and then require each first re-

¹One example of a National Guard mission statement is as follows: "When directed by State authority, the National Guard can provide units organized, equipped, and trained to function efficiently in the protection of life and property, and the preservation of peace, order and public safety in military support to civil authority for disaster response, humanitarian relief, civil disturbance, counter-drug operations and combating terrorism." (Extracted from the mission statement of the 29th Infantry Division (Light) of the Army National Guard.)

sponder to work overtime. The second strategy is to have agreements (i.e., mutual aid) in place with sister agencies from other parts of the state or outside the region to share personnel and equipment. These agreements should be with distant jurisdictions not affected by the attack in order for this to be a workable option. For volunteer first responder organizations, an additional issue to resolve may be that of financial sponsorship for travel, lodging, meals, etc.

- **Red Cross** — As the most well known disaster relief organization, the Red Cross offers a variety of resources that could be called upon in response to bioterrorist event. They may be able to provide personnel for door-to-door canvassing activities, resources such as shelters, or other useful assets.
- **Amateur Radio Club** – Amateur radio operators have useful communication skills and equipment and could play a vital role in keeping outreach personnel connected to the Command Center.
- **Unions** – Unions may be another source of personnel and, depending on the type of union, may also provide capital resources such as vehicles.
- **Churches/Religious Organizations** – These organizations are often a good resource for volunteers and may have auditoriums, printing capabilities, and other useful assets.
- **Bilingual Organizations or University Language Departments for Linguistic help** – In multi-ethnic areas, identifying a resource for

assistance in communicating to foreign-speaking individuals will be necessary.

- **County Employees** — County employees may be a resource to draw from in terms of personnel, creative shift scheduling, and assignments.
- **Salvation Army** – Again, this organization shares similar characteristics with others on this list, such as the Red Cross and Church Organizations, and can be a valuable resource for those same reasons.
- **Crisis Response Teams** – Across the nation there are various organizations that either have or support crisis response teams. In the Washington, DC region, the Capital Area Crisis Response Team provides professionals who are trained in dealing with people in distress and may have personnel to assist in outreach efforts.
- **Retired Professionals (e.g., nurses, doctors, ministers, etc.)** – If there is some method for organizing these individuals, or if planners construct a plan in advance for requesting and receiving this type of assistance, retired professionals would be particularly useful in the mass prophylaxis portion of a CO effort.

When selecting representatives to conduct the CO efforts, start with personnel from uniformed organizations sworn to complete their duties. People in this category include, off-duty police officers, police of-

ficers from neighboring jurisdictions, state police (especially from other parts of the state), the National Guard, off-duty firefighters, etc. These uniformed personnel command a level of respect and are readily identifiable by the community. Uniformed personnel provide a high level of reliability and dedication to complete the task at hand beyond what is normally expected of the general volunteer population. Police from the affected community will probably already be tasked with other functions in the response (e.g., security, crowd control, etc.) and will not be available for CO. They should not be expected to perform the Community Outreach role.

Planners should arrange in advance to obtain assistance from other jurisdictions through mutual aid agreements. Most communities have mutual aid agreements in place with their neighboring jurisdictions; however, a biological event is likely to cross the jurisdictional boundaries of most municipalities. Therefore, planners might consider establishing mutual aid agreements with distant jurisdictions that are not normally considered sources for mutual aid.

In addition, canvassing personnel should be issued identification badges prior to beginning the CO effort.

While there are many non-profit organizations that a city could turn to for help, it is recommended that they do not use youth or children's organizations (Boy Scouts, Girl Scouts, etc.) for this type of disaster assistance because of the potential for infection and exposure to disease.

Tracking and Documentation

Tracking and documentation are critical tasks for the CO effort. A process and supporting tools need to be developed to document every person that has been contacted and those who require further follow up. A pre-printed form that can be quickly filled out with the minimum information is one method. If the sectoring method is related to some automated system, such as the Postal Service Routes, then a printout of homes with the resident's names and addresses serves as an initial starting point for flow sheet development.

Special Planning Considerations

- **Language Issues** – Plan for the need to distribute information in more than one language. Know where to get interpreters.
- **Homeless Populations** – Include homeless shelters in all of the canvassing efforts. Plan to visit the homeless shelters around dinner time to catch the largest number of people.
- **Special Needs Populations** – People who are very old, very young, and the immuno-compromised are the most likely to get sick from a bio-agent release. However, they are often disabled or shut-in and may have been in their homes during the release; possibly, the safest places that they could have been. A special task force may be appropriate for addressing this population.
- **Fear** – Expect significant fear of the disease both from the medical community and the general public. This

may be similar to the fear that existed when AIDS first appeared in the early 1980's.

- **Trust Factor** – There needs to be a level of trust between the citizens and the door-to-door workers. For example, some communities may not trust a police officer but they might be more trusting of a fireman at their door.
- **Lodging and Food** – Personnel relocated from other parts of the state (e.g., state police, National Guard), will require food and housing. Plan for facilities to support them.
- **Communications** – As the community outreach effort canvasses the neighborhoods, a communication network of radios and/or cell phones will be needed to keep all of the canvass teams linked to the command post.
- **Supplies and Equipment** – The CO effort will need many standard office supplies (e.g., pens and paper for note-taking). They will also need

maps of the area, communication equipment, and, if available, hand-held computerized documentation systems. Each canvass team should be provided with communication devices, information sheets, tracking forms, and event-driven personal protective equipment.

- **Transportation** – Because outreach workers will be operating in numerous locations in the affected area and will likely be moving from place to place, planners should consider what means of transportation will be required and supplied to each worker and/or canvass team. Special requests for transportation are typically coordinated through the local Emergency Manager.
- **Spontaneous Volunteers** – In most disaster situations, people will volunteer their efforts. Many of these spontaneous volunteers could be used in the CO effort. Planners should prepare for receiving, coordinating, and managing teams of spontaneous volunteers.

Mass Prophylaxis

The key to survival for most people is to provide antibiotics as soon as possible. With most agents (e.g., *Bacillus anthracis* or the disease Anthrax), providing medications prophylactically is key, even before the person begins to show any clinical symptoms. It is the key to survival for most people. A biological attack has the potential of infecting thousands to tens of thousands of people and since during an event no one will know for sure how many people will be infected, it is important for a community to plan for acquiring and distributing the medical prophylaxis to large numbers of people.

This mass prophylaxis plan must include who has priority to receive the medications. The first people to receive the prophylaxis should be the first responders and the community's key medical and support personnel. This will be a hot and politically explosive decision if it is made at the time of the event. Proper pre-planning and incorporation of those decisions into the community's emergency operations plan (EOP) now will minimize the turmoil later. It is critical to deliver the prophylaxis to those key personnel so they will be able to do their jobs during the event. Consideration should also be given to the family members of the first responders and the medical staff. These people may not be able to work if their spouse or child is sick.

Acquiring the Medications

Few, if any, communities have enough antibiotics currently in their domain or

readily available for mass prophylaxis efforts. Because of this limitation, the Department of Health and Human Services' Centers for Disease Control and Prevention (CDC) has developed a cache of medications and medical supplies designed specifically for use during a chemical or biological terrorist attack. This cache is known as the National Pharmaceutical Stockpile (NPS). The CDC can deliver the NPS to any community in America within 12 hours of the stockpile's release. Communities should incorporate requesting, acquiring, and distributing the stockpile into their emergency operations plan. Detailed information regarding the receiving, organizing, repackaging, and distributing of the NPS is provided in a planning guide by the CDC² and is available upon request.

Requesting the Stockpile

Any jurisdictional level can make requests for the NPS; however, all levels (local, state, etc.) will be involved in an immediate conference call about the request and its precipitating event(s) before the CDC director releases the stockpile. A federal emergency declaration is not required for the CDC to release the stockpile.

Receiving the Stockpile

The CDC will deliver the stockpile to the airport nearest the attack where the airfield capabilities include airstrips large enough to land a wide-body cargo aircraft, cargo handling equipment, remote access ramp, electronic guidance capability, and hanger access.

²Draft Planning Guide for Receiving, Organizing, Repackaging, and Distributing the CDC National Pharmaceutical Stockpile, Centers for Disease Control and Prevention, November 2000.

Upon arrival, it is the responsibility of local agencies to move the stockpile from the airport to the repackaging and dispensing locations. The following aspects of receiving the NPS should be considered:

- **Official Receipt of the Materiel** – The assets of the NPS must be officially transferred to state/local custody, in accordance with state/local plans. These plans should clearly designate the responsible official(s) who can meet and take custody of the NPS upon arrival. The NPS also requires a practitioner (registered with the Drug Enforcement Administration) be on hand to receive the controlled substance portion of the NPS.
- **Offloading Materiel** – The stockpile comes in several large air cargo containers. These will require special handling equipment to offload cargo from the airplane. If the stockpile is delivered to a large commercial airport, this will not be an issue. If the locality requests the stockpile be delivered to a smaller, less resourced airfield, then offloading equipment may be a limiting factor.
- **Staffing Requirements** – The CDC will send a small support team to assist in the transfer of the stockpile. They will provide a variety of technical advisors that include pharmacists, public health experts, and emergency response specialists. The local community will have to plan for providing adequate numbers of personnel to breakdown the stockpile into usable portions.
- **Tracking** – The locality will have to develop a method to track not only

the assets of the NPS, such as medication lot numbers, but also who has been involved in the movement of the materiel.

- **Communication** – State and local plans should address communications for on-site supervisors and support teams and the delivery vehicles and/or transportation officials to facilitate the various activities involved in the receipt and breakdown of the stockpile.
- **Storage** – An environmentally controlled facility will be required for interim storage of the NPS, and as well as a secured location will be required for controlled substances.
- **Dosage** – The local health department will need to recommend the standard dosage that will be distributed to each person and the length of treatment (e.g., 3 day or 7 day course). This decision must be made before the stockpile is repacked.
- **Repackaging** – Most of the medications that come in the stockpile are in bulk containers and not in unit doses. Local resources personnel will be needed to count pills and repack-age them in the amount required for one prophylactic course of treatment. Several ideas on how to do this are given in the next section.
- **Security** – The locality should plan to provide additional security at the airport when the plane arrives, during the repackaging process, and at the storage site(s).

Repackaging the Stockpile

There are several different methods for the breakdown of the NPS³ once it arrives. There is a more detailed discussion of each of the following methods in the CDC's planning guide.

- **Plan to repackage at the airfield**

In this option, the stockpile is repackaged into small, individual packages at the airfield, prior to delivery to the dispensing site(s). The repackaging effort primarily involves the bulk oral antibiotics. The bottle of pills (250 or 500 count) needs to be counted into the desired dosage and put into plastic bags or a similar container and labeled. This option will use fewer local resources and more mutual aid resources if the airfield is located outside of the requesting jurisdiction.

- **Plan to repackage the NPS at a site closer to the area's population center.** This method establishes the repackaging operations at facilities closer to the actual dispensing sites, rather than in the airfield hanger. If using this approach, planners may want to consider separating the oral antibiotics from the rest of the medical supplies, delivering each type of supply in bulk, to the repackaging location that is in close proximity to where it will be used, and then proceeding with the breakdown and repackaging.

- **Repackage materiel at the dispensing sites that are familiar to the local population.** In this option, the bulk supply is distributed directly to the dispensing sites, and the breakdown, repackaging, and dispensing activities occur at the same location. This eliminates the interim location between the airfield and the dispensing site that the previous option employed.

- **Dispense oral drugs for post-exposure prophylaxis through local pharmacies equipped to repackage medications into individual treatment packs.** This method involves the prior agreement of the local pharmacies who agree to make their assets available to the community as a part of the area's emergency response plan. The bulk medication is taken from the airfield and delivered to area pharmacies, which then repackage and dispense it to the affected population.

- **Arrange to repackage the NPS oral medications using the facilities of a local mail-out/online pharmacy.** Mail-out pharmacies can provide the automated machinery to fill thousands of patient-specific treatment courses per hour, and therefore are an attractive option for quickly repackaging the bulk antibiotics. This method requires that the bulk medication be transferred from the airfield, to the mail-out pharmacy, and from there, the

³Ibid.

individual unit doses are transferred to the dispensing sites.

- **Use one of the seven Consolidated Mail Outpatient Pharmacies (CMOPs) of the Department of Veterans Affairs (VA) to conduct repackaging.** This is the same option as the previous one, except it uses the VA Consolidated Mail Outpatient Pharmacies instead of the private commercial sector pharmacies. Because the VA has an organizational relationship with the NPS program, localities should be able to easily facilitate accessing these assets.

The Planning Guide for Receiving, Organizing, Repackaging, and Distributing the CDC National Pharmaceutical Stockpile provides advantages and disadvantages for each of the aforementioned repackaging methods. Another option that may be appropriate for a community to consider for repackaging the NPS in their locale is the following:

- **Combination of breaking down some bulk packages at the airfield and some at the point of delivery.** This option acknowledges the possibility that getting the prophylaxis to the first responders and other emergency response personnel may be a crucial priority in order to continue response operations. To facilitate distribution, creating the ability to quickly repackage a small portion of the NPS at the airfield as well as having repackaging facilities at or near the point of dispensing may be an alternative that planners choose to pursue.

Finally, all of these methods require similar material resources that include, but are not limited to the following:

1. Designated official to receive NPS
2. Security escorts at staging and dispensing areas
3. Personnel to handle bulk cargo containers
4. Personnel to repackage the bulk medications and other supplies
5. Inventory control – record keeping and tracking of NPS assets
6. Secure storage for unattended materiel
7. Transport for materiel to the dispensing sites once it is removed from the cargo containers
8. Administrative oversight

Distributing and Dispensing Mass Prophylaxis

In order to effectively conduct a mass prophylaxis campaign, several issues must be addressed in advance. The goal of this section is to raise awareness of some of the more immediate concerns. For example, information is provided regarding the National Pharmaceutical Stockpile asset that most communities will likely access in a bioterrorist incident, as well as other considerations for conducting a mass prophylaxis operation.

In order to conduct a mass prophylaxis effort, a decision must be made regarding the target population for treatment and the course of treatment. Depending on the type of incident and how much information is available to the region's officials, prophylactic treatment may be appropriate for all of the population in the affected area, or

only for a subset of it. In addition, treatment may be appropriate for contacts of infected persons in the case of a communicable agent.

Mass prophylaxis programs should complement the NEHC, within the MEMS construct. Any mass prophylaxis program, beyond what the NEHC can provide, will require a CO effort to accomplish the mission of getting medications to affected individuals. Therefore, the previously described resources for CO will apply to mass prophylaxis efforts as well. In addition to those resources, provisions must be made to obtain and document patient consent to receive treatment. Tracking requirements will be similar for mass prophylaxis as for CO (and at minimum are name, address including zip code, allergies, gender, age, and if currently sick or not). The dispensing site should also track which lot number of the medication was given to each patient.

If the method of dispensing medications involves having the public go to a community location (such as an NEHC) to receive medications, then security at each site will be necessary, particularly if there is any measure of panic occurring.

In areas of multi-ethnicity where English is not routinely spoken or is not the preferred language, interpretative services will need to be planned for and available. This includes persons who can interpret, as well as multi-lingual printed material. At the dispensing site locations, this will be particularly important for the screening process (informed consent for medical treatment and allergies).

One method for conducting a mass prophylaxis operation is to do so by leveraging

the MEMS concept and specifically the NEHC. Not only does the concept of operations for an NEHC provide for dispensing prophylactic medications to the affected population, it also provides a mechanism for triaging both sick and asymptomatic, but potentially exposed patients. When dispensing medications, the NEHC also provides educational materials and instruction on the medicines, the course of treatment, and the agents suspected or involved.

If the incident is extensive, NEHCs may be the preferred place for dispensing medications to the part of the population that is not yet too sick to care for themselves. Encouraging the public to go to an NEHC to receive care and medications would allow a CO effort to focus on reaching those people who require special assistance or are so ill that they cannot leave their homes without outside help.

If the NEHC concept is not adopted, then each mass prophylaxis site should consider the advantages of sorting people upon arrival based on whether or not they are exhibiting symptoms or not. This may be especially applicable in situations where the agent has not yet been identified and the possibility exists that it could be communicable. While plague and smallpox are the usual communicable diseases discussed in the context of bioterrorist events, both may be difficult to identify prior to executing a mass prophylaxis effort; and therefore, separating the symptomatic from the non-symptomatic holds merit.

Regardless of the method employed, engaging the community and ensuring their participation will require early and frequent use of the media, such as public service announcements and other forms of public information and communications.

Some of the considerations for undertaking a mass prophylaxis operation include the following:

- Locations for dispensing medication (as previously discussed)
- Personnel to package unit dose supplies of the medications as well as distributing and dispensing them.
- Pill-counting machines or other method for breaking down bulk bottles of pills.
- Plastic zip-lock type bags
- Pens or markers
- Tracking system/record keeping
- Handouts for the public with agent-specific and drug information
- Personal Protective Equipment for the people staffing the dispensing centers
- Security for the medications and the staff
- Multi-lingual staff and handouts
- Parking nearby
- Access to 911 in case of emergencies such as medical, crowd control, or other panic-related events.
- Handling special needs populations.

CONCLUSION

Readers are encouraged to use the portion(s) of this guide that enhance their current Emergency Operations Plans and Standard Operating Procedures and annexes that specifically address community outreach and mass prophylaxis. It is important that communities build their planning effort from existing capabilities and plans. This guide and the supporting documentation referenced previously are also useful in providing a convenient starting point for local communities to plan and implement their own BW response

system. Local planning before an incident and rapid implementation following an incident will improve the ability of a locality to cope with a major BW terrorist attack.

An organized effective emergency response plan to a large-scale BW attack is applicable to any catastrophic medical emergency. Thus, adaptation of the concepts and components in this guide enhances overall local, state and national emergency preparedness.

POINTS OF CONTACT FOR PLANNING ASSISTANCE

Homeland Defense:

<http://hld.sbcom.army.mil>

- Online source for the 1998 Summary Report on BW Response Template and Response Improvements.
- Online source for the Interim Planning Guide: Improving Local and State Agency Response to Terrorist Incidents Involving Biological Weapons; and the other MEMS pamphlets.
- Information and factsheets on training exercises and equipment.
- Links to related sites, including federal partners of the DPP, Chemical Weapons Improved Response Program, and the Rapid Response Information System.

Department of Health and Human Services

<http://www.dhhs.gov/>

(877) 696-6775

Office of Emergency Preparedness

<http://ndms.dhhs.gov>

(301) 443-3499

National Domestic Preparedness Office

<http://www.ndpo.gov/>

(202) 324-9026

Centers for Disease Control and Prevention

<http://www.cdc.gov/>

(800) 311-3435

Federal Emergency Management Agency

<http://www.fema.gov/>

(202) 646-4600

Department of Defense

<http://www.defenselink.mil/>

(703) 697-5737

Federal Bureau of Investigation

<http://www.fbi.gov/>

(202) 324-3000

U.S. Army Medical Research Institute for Infectious Diseases

<http://www.usamriid.army.mil/>

(888) 872-7443

Environmental Protection Agency

<http://www.epa.gov/>

(202) 260-2090

Department of Energy

<http://www.doe.gov/>

(202) 586-5000

Department of Agriculture

<http://www.usda.gov/>

(202) 720-2791

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U.S. Army SBCCOM, Domestic Preparedness BW IRP. *Summary Report on BW Response Template and Response Improvements*, 1998.

Centers for Disease Control and Prevention. *Draft Planning Guide for Receiving, Organizing, Repackaging, and Distributing the CDC National Pharmaceutical Stockpile*, Draft #7, November 2000.

U.S. Army SBCCOM, Domestic Preparedness BW IRP. *NDPO / DoD Criminal and Epidemiological Investigation Report*, December 2000.

U.S. Army SBCCOM, Domestic Preparedness BW IRP. *Interim Planning Guide: Improving Local and State Agency Response to Terrorist Incidents Involving Biological Weapons*, September 2000.

U.S. Army SBCCOM, Domestic Preparedness BW IRP. *Neighborhood Emergency Help Center: A Mass Casualty Care Strategy for Biological Terrorism Incidents*, December 2000.

Proceedings from the Arlington County, U.S. Department of Health and Human Services, and U.S. Army SBCCOM co-sponsored Community Outreach-Mass Prophylaxis Workshop conducted January 11–12, 2001.

U.S. Army SBCCOM, Modular Emergency Medical System Concept Development Conference. *After Action Report*, March 2001.

U.S. Army SBCCOM, *Acute Care Center Center: A Mass Casualty Care Strategy for Biological Terrorism Incidents*, December 2000.

Association for Professionals in Infection Control and Epidemiology (APIC) and the Centers for Disease Control and Prevention (CDC). *Bioterrorism Readiness Plan: A Template for Healthcare Facilities*, April 1999.

Centers for Disease Control and Prevention, National Vaccine Program Office. *Pandemic Influenza: A Planning Guide for State and Local Officials*, Draft 2.1, downloaded from www.cdc.gov/od/nvpo/pandemicflu.htm on January 6, 2001.

BW Response Template and Key Decisions

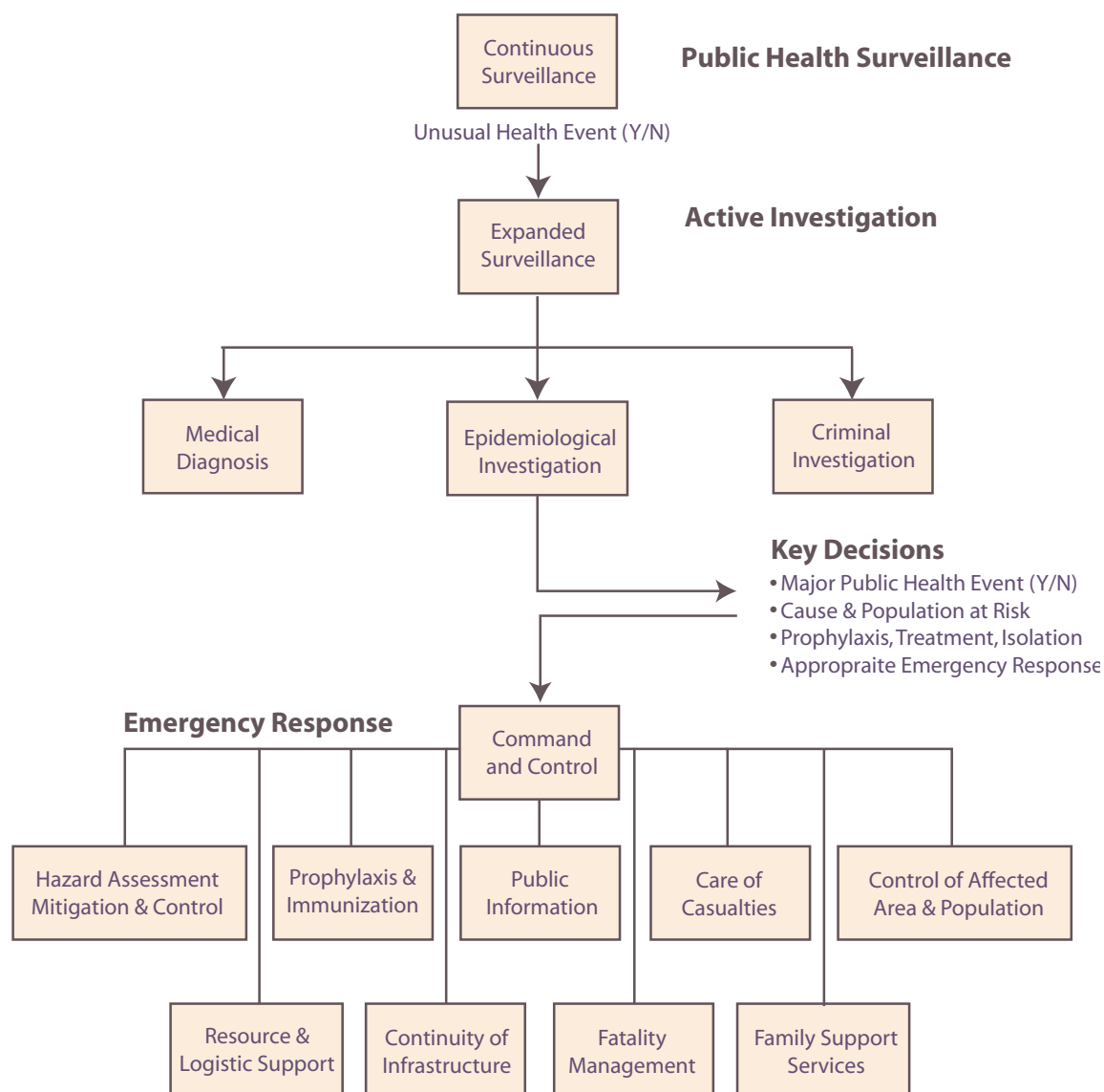


Figure A-1. BW Response Template and Key Decisions

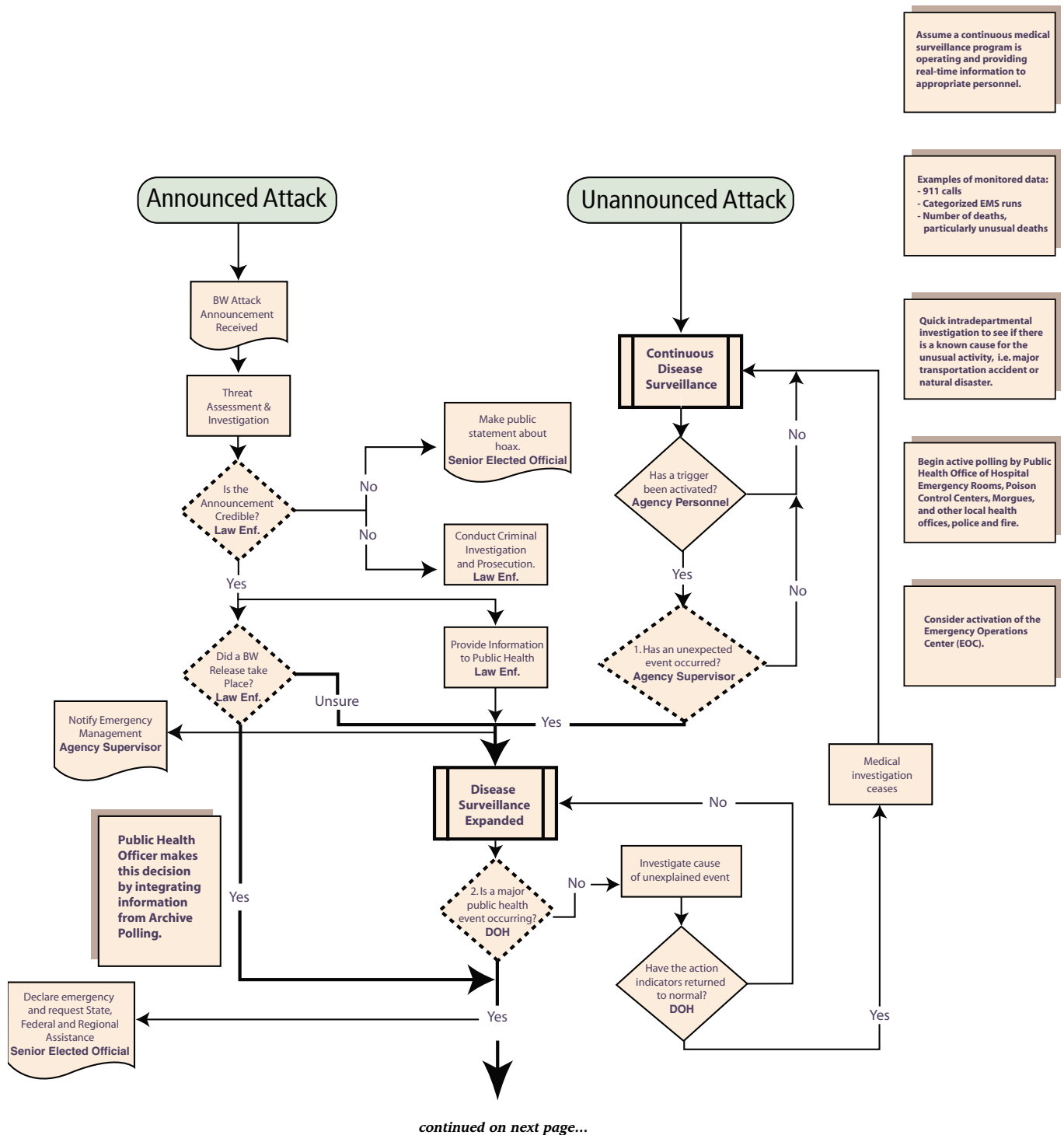


Figure A-2. BW Response Decision Tree

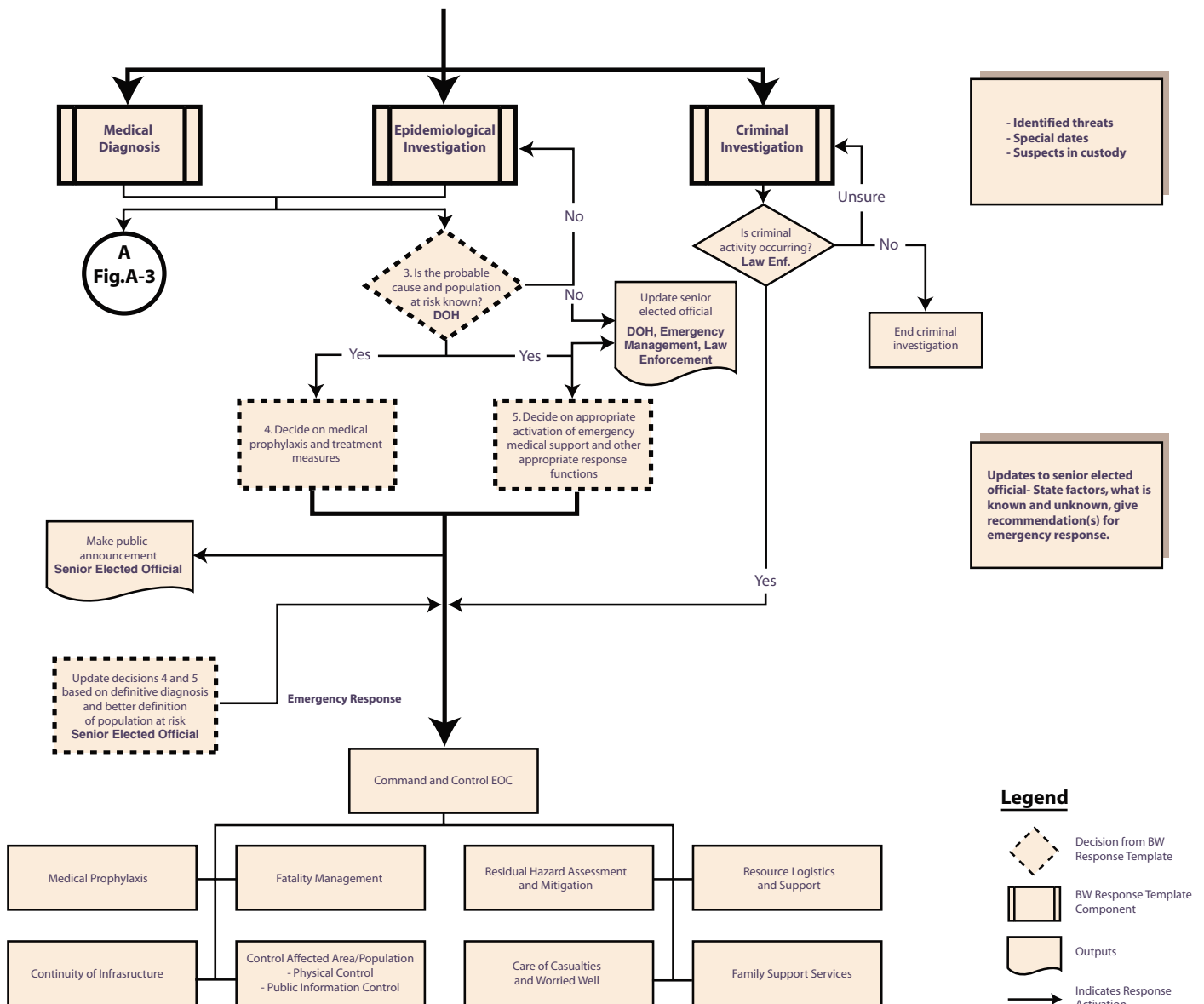


Figure A-2 continued... BW Response Decision Tree

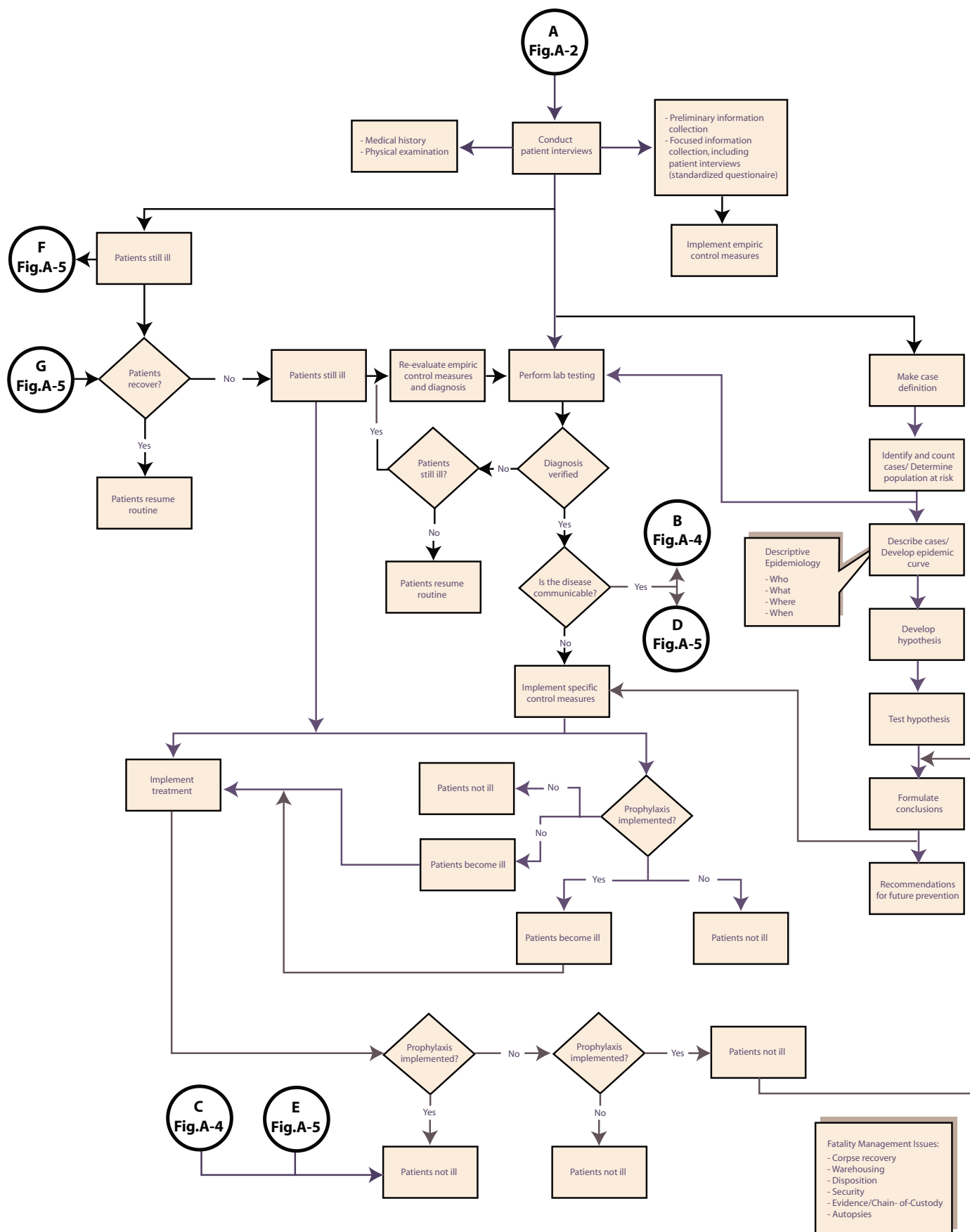


Figure A-3. Medical/Public Health Decision Tree - Epidemiological Investigation

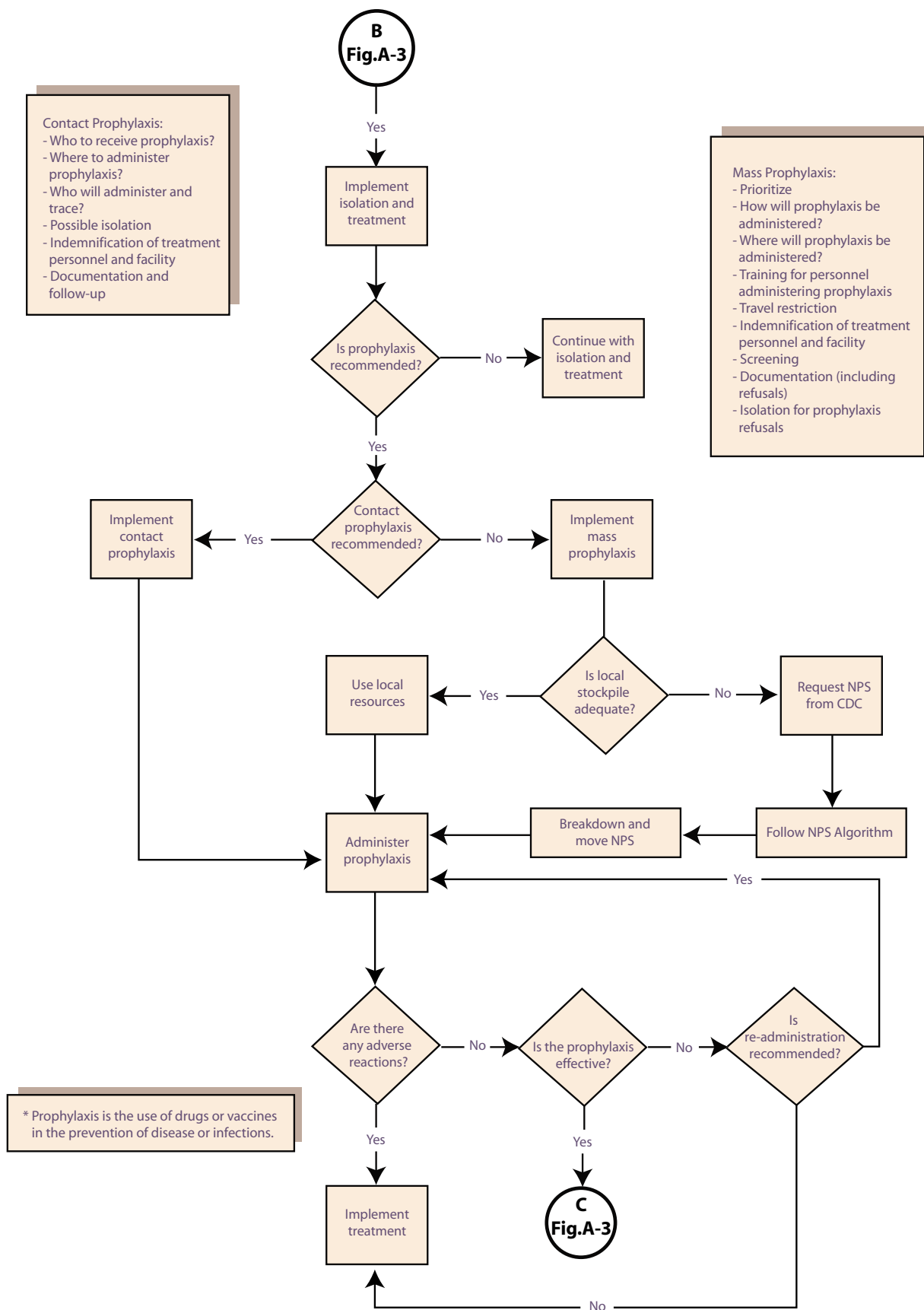


Figure A-4. Prophylaxis Decision Tree

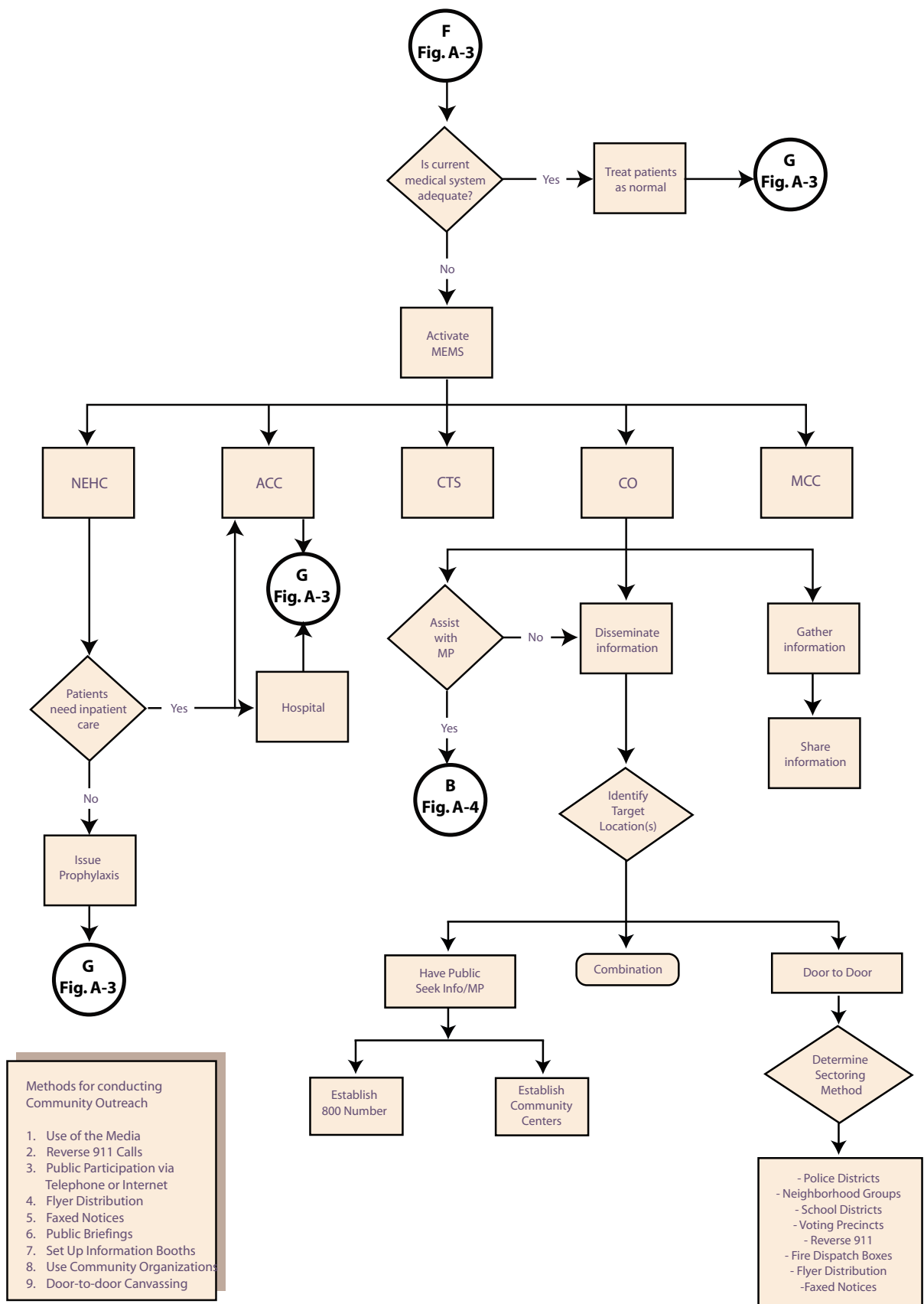


Figure A-5. Activation of the MEMS

